



THE NEWSLETTER FOR COMPUTER USERS

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TLM . . . NEW IDEAS FOR OS-9 AROUND THE WORLD

by Bruce N. Warner

There's a new kid on the block, and TLM is coming up with some really new ideas for the world of OS-9, like OS-9 on an IBM PC. That's something that will make the IBM family of computers really work.

TLM's newest project involves both the IBM-PC and the Atari families of computers. The idea is to give both a real operating system — OS-9.

For The Atari

There are a lot of nice things about the Atari OS-9 68K version. One of the most

noticeable is that there is no need for hardware modifications at all. All you do is boot the system off the OS-9 disk. It fully implements multiuser and multi-tasking operations without the need for anything more special than the OS-9 disk.

The good news is that it will run all OS-9 68K software from standard OS-9 formatted disks. The bad news is that the software must be on a 3.5 inch diskette. While this may not be a long term problem, there is very little OS-9 software on 3.5 inch disks right now. The other good

news is that it runs on both the 520 and 1040 Atari 68000 machines and will sell for under \$300.

The other good news is in the Programmers Pack which will include C, BASIC09, PASCAL, a Macro Assembler, Relocatable linkage editor and a Symbolic Debugger for under \$700. This makes the TLM Atari OS-9 package complete and all delivered at the same time.

Add to that, the fact that you'll be able to run certain GEM-DOS operations under OS-9 task as an option and you've got a deal.

IBM-PC Gets OS-9 Too

Unlike the Atari version of OS-9, the IBM version requires a 68010/68000 coprocessor board. This is because the IBM-PC doesn't run any of the Motorola chips. To get to the real power of OS-9 you need a separate CPU. In this case a 68010 running at up to 12.5 megahertz.

The board is packaged with OS-9 for PC or AT and compatible clones, requiring a full size IBM slot for the installation of the board. Those with short boards will be left behind on this one. The good news is that the board is loaded with extras, like the availability of having one to nine users, up to two meg of RAM on the coprocessor board, a real time clock

with battery backup, 8K of battery backup CMOS static RAM, two serial ports, two parallel ports and an optional 68881 coprocessor (for floating point math).

The other feature that makes this a real breakthrough for the IBM-PC is that you can have concurrent operation of PC-DOS and OS-9, running PC-DOS as its own environment.

The software for this system isn't cheap, mostly because the system isn't limited to software the way the Atari system is. This one starts at just under \$1400, including OS-9, the macro assembler, the relocatable linkage editor and the symbolic debugger. If you're a programmer, you'll be glad to have the Programmers Pack for just under \$500. It includes BASIC09, PASCAL and C.

TLM Systems is located in Fresno, California. You must order their products direct from:

TLM Systems
4704 West Jennifer, Suite #105
Fresno, CA 93711

TLM states they are receiving many good comments from their users. They're committed to OS-9 and they have an Amiga port in progress. Look for it and their upcoming ad, just around the corner.

OS-9/68000 FOR THE ATARI-ST

A preview by Brian A. Lantz

There is probably no greater thrill for a computer junkie than to get something new for a computer. Hardware addicts dream of new machinery. Game freaks drool over the prospect of a new demon to fight or spaceship to maneuver. But for the OS-9 system software maniac, a new version or port of OS-9 makes the whole year worthwhile.

When I heard about TLM's port to the Atari several months ago, I started taking an interest in the Atari-ST. Before this, I didn't have any reason to care for the machine. I am not a hardware or computer junkie, I am an OS-9 junkie! And with the hope of OS-9 on this machine, I kept looking around until I found a good buy on one.

Upon receiving the OS-9 disk from TLM (the first copy of the Atari OS-9 to leave TLM's hot little hands), imagine my joy when I saw:

OS-9/68000 System Bootstrap V1.2

The double-sided 80-track Atari drive spun away and lo and behold, after only 24 seconds, the OS-9 boot had been

loaded, the system clock started, the SHELL and CIO loaded and linked, and /d0 and /d1 had been INIZ'ed. In all, over 41K of modules had been loaded from disk, either to remain or to help startup this OS-9 port. Not bad for 24 seconds.

Now, let me point out, I am not a newcomer to OS-9/68000 (to be referred to as OSK). At the present time I own four OSK machines (including the Atari). The speed of OSK is not what surprised me. I just didn't expect the Atari to run it that efficiently.

Let me also point out, that I have not (yet) spent much time learning what makes the ST tick. GEMDOS, or TOS (whichever you prefer), is not my cup of tea. I also own a Apple Mac, which I don't use much, either. When I see a mouse, I run for a mousetrap. Windows should be closed with the air conditioning on (as it always is in Florida). Remember, I am an OS-9 junkie.

You will notice that this is a preview. The copy of Atari OSK used was a pre-release copy. When the "official" release copy is available, a more extensive review

will be made. The review will contain more technical information. This preview will scan the surface of the subject, and give you the cream.

How It's Done

(Nothing up the sleeve . . .) There doesn't seem to be anything magical to how this port comes up. One of the things that TOS seems to do in its startup is to check for a folder named "AUTO." If this folder exists, the programs found there (with a ".PRG" extension, I believe) are executed. The OSK Startup disk has such a folder, with a "STARTOS9.PRG" found in it. This program, in addition to making whatever system changes are needed, prompts you to insert your boot disk and press any key. It's as simple as that to bring up OSK!

In the copy of Atari OSK I received, it was required that you have the new Atari TOS ROMs. Whether this is required with the final release version or not, I don't know. In order to cut down on code, the TOS ROM BIOS and XBIOS calls are used, when appropriate.

Aside from these few "hardware de-

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PUTTING IT TOGETHER

The making of this month's MOTD

by Bruce N. Warner, Editor



May, 1986

Vol. 2, No. 4

"Oh no, not another MOTD!" It's hard to believe that another month has gone by. With the beautiful weather we've been having in the Nation's Capital, I've been working in the yard, getting all the crud off the car and generally neglecting my computer room. Thank God that some things are just passing fads. If I hadn't taken one of my systems to work, I'd be totally occupied with the world of MS-DOS (which I'm forced to teach during the day). I'm happy to be back to the world of OS-9 and the MOTD.

This has been an exciting month for those of us in the OS-9 community, with some really exciting things happening. One has been an article in InfoWorld on OS-9, then I got to see the first OS-9 UG pins, and the April 85 issue of MOTD which actually hit my house the first week of April.

Where the MOTD is concerned, I get to put all the articles together, but I don't see the actual copy until it's left the printers for mailing. In some respects that's great, but in others it's scary. Suppose there's a mistake, or the layout man at Falsoft doesn't understand something I've sent them. What do I do to fix that?

Well, we claim to have something for everyone, so we'll use the mistakes for the people that like to nit-pick. You know, the kind of people that get National Geographic just to say they are the first person to ever find a typo in it. Yes, we have something for everyone.

What's InfoWorld Got to Say?

Being the president of a local computer club and the editor of a major (yes, we're major) publication, you get a lot of mail, and you never know what's important and what's not. This week I received a copy of InfoWorld in the mail. Since I don't subscribe to it, I was a little surprised to have it show up. Then I saw the note from Bob Rosen and turned to the magic page. OS-9 has made the pages of InfoWorld.

Now, InfoWorld has to learn something about OS-9. For starters, they referred to OS-9 as the Tandy Color Computer Operating System. Then they called it a Japanese operating system because SONY has put it into CD ROM. Finally, they lost all perspective of the advantages of OS-9 over any of the other systems currently available on any affor-

dable computer. Why should anyone purchase a three letter computer and end up with a machine that has less speed, less power and less flexibility in its operating system.

The truth of the matter is that SONY and PHILLIPS decided on 68000 OS-9 because it offers the best possible operating system for CD ROM systems. The SONY VIEW system uses 80186 MS-DOS, and it's less capable and slower than 6809 Level II OS-9. The decision to use a real operating system for CD ROM was the right move for SONY.

The reasons the U.S. auto industry got into so much trouble is because the people at the top tried to shove their products down our throats while the Japanese were willing to give us what we want. The reasons the Japanese chose 68000 OS-9 for CD ROM are because it offers more power in less memory for less money than any of the 80xxx computers have to offer. Maybe the American public will learn another lesson from the Japanese. Maybe we'll all be forced into OS-9 because of the Japanese influence on the computer market. Maybe all the computer weirdos (non MS-DOS computer users) will become the czars of the computer industry by the end of this decade. Maybe we'll all find that we are the really smart computer users and the rest of the world is just catching up to us.

Pressing The Hot Button

On the cover of the April issue of the MOTD, we had a giant copy of the club's new logo. Dale Puckett showed up at the last RAINBOWfest with some buttons for the officers of the UG. He later told us that he could get us a bunch of them made up. Next he informed us that we could get enough made to sell them at the next RAINBOWfest (the one later this month in Chicago). The idea was great, and we decided to take it for action. The biggest problem was getting a reasonable price for printing of the art work. Enter Henry Warner, Sr. Does the last name look familiar? It should. Thanks to my father and Key Press, Ltd. in Arbutus, Maryland, hundreds of copies of our logo were printed and donated to the UG free of charge. If you're a member of the UG and want to say thanks, give them a call. Small business operators need help too.

In any event, we now have our logos printed up and they're being pressed on

buttons for sale at RAINBOWfest Chicago. We're trying for a price below the \$3.00 mark, hopefully closer to \$2.00, but only time will tell.

The Last Issue of The MOTD

You've probably noticed less errors with the MOTD over the last few months. We're working it getting it down to none, but there's never a guarantee of what we'll be able to do. Thanks to FHL's marketing of DynaSpell, we're now able to check the spelling of our files. I'm working on a method of putting the dictionaries on the extra meg of RAM disk I have on my CoCo, so that I can really speed things up. If it all works out right, I'll be passing on the procedures for all of you to learn from. It will actually end up as a couple of patches for the floppy and RAM disk descriptors. If we can get them both to max out, I should be able to get the entire SPELL directory on one of the RAM disks and backup the floppy to RAM every time I boot up. With two RAM disks, I'll use the other for my CMD5 directory and my current files. Without interrupts and RAM access, I'll be able to spend more time on adding to the MOTD and less on checking out what's come in.

What Page Is It On?

Someone asked why Dale Puckett ended up buried deep inside the MOTD in April. "Someone as noteworthy as Dale Puckett deserves better than page 10!"

Dale and I both disagree with this statement. The front page belongs to the best story of the issue. As the editor of the MOTD, I have to decide what's the best article. It may be an article on a new application of OS-9, or a new product for OS-9. If it's written by Dale Puckett, Dale will get page one. If it's written by John Doe, you'll see John Doe on the front page of the MOTD.

Is There Anything More We Can Add?

I always like to close things by thinking about what I might have said that would have had a more profound influence on you, the reader. It's really hard in the midst of such influential people as Dale Puckett and Brian Lantz, but I try. So I'll leave you with this gentle thought...

WHERE'S YOUR ARTICLE FOR NEXT MONTH'S MOTD?!

5. The ad cannot exceed three, 64-character wide lines.

6. Any warranty stated or implied is between the buyer and the seller. The UG has no responsibility nor any liability in sales made through the classifieds.

The first classified ad was received from former editor of the MOTD, Tim Grovac. It reads like this:

OS-9 Level II System, H-19 Terminal, 2 DSDD 8" Drives, 2 DSDD 5" drives, SSB System w/456K RAM. All software included \$1695. Call (703) 759-2170.

CLASSIFIED ADS IN THE MOTD

Something new hits the pages of the MOTD. Classified ads are becoming a part of the MOTD. Here's the rules.

1. No classified ads will be accepted from commercial vendors.

2. Classified ads will be free to

members of the UG and cost non-members \$15 per issue.

3. Only one ad per member per issue.

4. You must include your phone number. No calls will be accepted by the editor or other officers of the UG concerning classified ads.

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Editor

Bruce Warner
OS-9 Users Group
ATTN: Editor
9743 University Ave., Suite 330
Des Moines, IA 50322

President, National OS-9 Users Group

Brian Lantz

Vice President

Bill Turner

Treasurer

Steve Odneal

Secretary

Dave Gibson

Director-at-Large

Dale Puckett

Software Librarian

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Subscriptions to the MOTD are free to members of the OS-9 Users Group. Non-members may subscribe by writing to the chairman of the membership committee and paying an annual fee of \$20. Send to: OS-9 Users Group, ATTN: Membership, 9743 University Ave., Suite 330, Des Moines, IA 50322.

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The QT series:

The basic **QT** has 128K RAM, 68008 CPU, 8 Mhz and will support 4 users and 2 printer ports. The single floppy version is priced at \$ 1,595 (Retail \$ 2,095) and is field upgradeable to 512K RAM and 20 Meg hard drive. This system sells for \$ 2,995 (Retail \$ 3,595).

The QT Plus series:

This **QT** has 512K RAM, 68000 CPU, 10 Mhz and supports 4 users and 2 printer ports. The single floppy version is priced at \$ 2,095 (Retail \$ 2,695) and is field upgradeable to 1024K, 8 serial ports and hard disk. The **QT Plus** 4 user system with 512K RAM and 20 Meg hard drive is priced at \$ 3,495 (Retail \$ 3,995). The 512K upgrade costs \$ 395 (Retail \$ 495).

This **QT** has 2048K RAM, 68020 CPU, 12.5 Mhz and supports 4 users and 1 printer port. This system can be expanded to 20 users with 16.67 Mhz. The **QT 20** with a 20 Meg hard drive sells for \$ 7,495 (Retail \$ 8,795).

QT Price List 1986

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QT 2 Drives	\$1,750	\$2,295
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QT+ 20 Meg HD	\$3,495	\$3,995
QT 20 20 Meg HD	\$7,495	\$8,795

OS9/68000 SOFTWARE

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Documentation: Writing It Right

by Dale L. Puckett

It's about time you wrote documentation for the rest of us! Getting started in computers is a real pain for most people. Check these quotes from Joel Sampson, a columnist for Studio Photography. "Many equipment manuals assume you have at least a Bachelor of Science degree in Computer Science or Electrical Engineering," he said. "The software manuals are even worse!"

Need more evidence? Check these additional passages from the same article.

"After you have your disks backed up it is time to figure out how to use the computer and software. There are no real shortcuts to this process," Sampson said. "Schedule some time between sittings to read a chapter or two of the manual and try it out."

You know what you'll get out of something — exactly what you put in to it no more, no less. But, why should you waste your valuable time reading boring manuals when you could be computing?

"The fog level of the computer documentation in circulation today has lead to a flood of third-party books written to tell normal people how to use today's 'exotic' software," Sampson said. "Some are excellent and give you a very good summary of the important points in the manual. Additionally, most are written far more clearly than the original manuals."

To help us over these hurdles, several companies sell tutorials that use computer assisted instruction techniques to teach both DOS commands and application software. *Wordstar* for example, sends a tutorial disk with each copy of *Wordstar*. But, Sampson thinks even that isn't enough.

Power to the authors and publishers of those self help books. It's the initiative of people like them that make our free enterprise system work. But, I would rather see hardware manufacturers and software publishers take a different tack.

Think positive for a moment and consider how nice it would be if every instruction manual you received with a piece of hardware — or every piece of software for that matter — did the job for you right out of the box. If you really want to get turned on by this approach, consider how your future software sales could soar if you ship a book that rivals those sold by third party publishers right in the box with your pride and joy.

Of course you might put a few entrepreneurs out of business, but think what you will be doing for your own company's image. Sales on your next product could triple. At least, they will be more likely too.

In this column, we'll share a few ideas that will help you move closer to your goal — to write documentation that's right for the rest of us.

In this issue we'll give you an overview of a few topics we'll be discussing in the future and highlight one or two fundamental rules that can help you in all of your writing. We do this because writing good documentation is like playing baseball. Before you can excel in the game, you must master the fundamentals. You must learn how to bat, catch and throw the baseball well if you ever hope to make it to the major leagues.

Here's a list of topics you will need to cover when you write a users manual for your customers. They are all important and you must always include them in your manuals.

1. An overview that tells what your program can do.
2. A list of specific hardware requirements.
3. A section that tells your reader how to configure his hardware.
4. A description of the software environment or operating system needed to run your program.
5. A step by step guide that shows how to install your program.
6. A step by step guide that shows how to use your program.
7. A troubleshooting guide that can help find problems.
8. A detailed index to every important topic in the manual
9. A table of contents to guide the casual reader.

In addition to the list above, here is a list of questions you should ask yourself before you release your manual for public consumption. When you answer them, just don't scan the manual. Read it. Be honest with yourself. If you don't answer the questions properly and let something slip, your customers won't be nice when they tell you.

Yes Answers Required:

1. Is your manual easy to read?
2. Is your manual written to meet your customer's needs?
3. Is your manual free of technical jargon?
4. Will your manual help a new computer user?
5. Did you remember to write a tutorial for beginners?
6. Did you include a reference section for experienced operators?
7. Did you keep the reference and tutorial sections separate?

No Answers Required:

1. Is your manual confusing?
2. Is your writing using 100 words when 10 words would do?
3. Is it impossible to find anything in your manual?
4. Do you butcher the English language?
5. Will your manual bore an experienced computer user?

If you're beginning to think that writing good documentation is a hassle, you're right! Just remember the rewards — satisfied customers and higher future sales.

Now, here are the fundamental rules we promised. First, be personal. You

want your customer to be a friend and like your product. To accomplish this goal, be like the friendly puppy that stands and wags its tail. Your customers will find it hard not to like you if your writing is friendly and personal. For example, don't write: "It is preferred that the user initialize a new disk before attempting to run this program."

Who in the devil is "the user?" That phrase is about as friendly as bad breath. Why offend your customer? Rather, try writing the same thought this way:

"You should initialize a new disk before you try to run this program."

Here's an analogy that may help you think about your audience when you write your manual. Imagine it is 1955. You are stuck in a traffic jam. The radio in your car is on and the local disk jockey is shaking your speaker with banal platitudes.

"Good morning everyone," he says.

"Sure!" you reply. "Who in his right mind would call this a 'good' morning? No one in this mess is having a 'good' morning. Who is he talking too?"

Now snap your fingers and move your dream world into the 1980's. Would you believe you're still sitting in the same traffic jam. Well, at least you have a new car and a stereo radio. Let's listen to today's sophisticated disk jockey.

"If you're stuck on 395 at Shirlington, you'll have a five minute wait before things break loose. It should take you about 15 minutes to get to the Pentagon."

Can you tell the difference between the disk jockey from the 'nifty fifties' and today's disk jockey? Would you believe you can apply the same rules to your writing that today's disk jockey applies to his ad libs?

Today's disk jockey knows that he is not talking to everyone. Five hundred thousand people may be listening to his program. Yet, he knows he must talk directly to each listener.

You must remember the same thing when you sit down to write your users manual — you are communicating with one individual. Sure, you may sell 10,000 copies of your program. But, each person that reads your manual is reading it alone. You are writing to one person.

Here's the question. How can you make your writing seem like you are writing to one person. The answer — use a lot of personal pronouns in your writing. Be especially liberal with the words "you" and "I."

When you do this, your reader will become actively involved in your message because he will feel that you are talking directly to him. He will feel like he must respond when you ask him a direct question.

Let's look at one more set of examples before wrapping up this column. Which sentence makes you feel like the writer is helping you?

This one: "The user will discover that the system presents one with a menu-selectable choice of five possible ways of dealing with a situation."

Or, this one: "You can select any one of five possible actions from an easy-to-read menu."

We promised to give you two fundamentals in this issue. Here's the second. Use the active voice. Why? Things don't just happen, people make them happen. The same goes for machines. Remember, computers compute, printers print and editors edit.

Since passive writing is one of my pet peeves, you may be reading a lot more about bringing your documentation to life with an active writing style in future editions of the MOTD!

S&W INTERNATIONAL SOFTWARE

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All programs display help menu with (-?)option.
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1986 — THE YEAR OF OS-9

by Brian A. Lantz

Though July 4th will mark the 9th anniversary of Microware, I think that computer historians will record 1986 as "The Year of OS-9." The "underground classic" has finally emerged and is being taken seriously (as it should have been all along).

At the time of this writing (April 13), three of the last five issues of Infoworld have made mention of OS-9. This is a first! There have been a few articles that have made mention of OS-9, as well as remarks in the columns of Jerry Pournelle and John Dvorak (thanks guys).

A First For The MOTD

The April 7th issue of Infoworld speculated on OS-9 being made available to Atari ST users. In the last few days of April, Atlanta will see COMDEX. At that time, TLM will show (remember, it's April 13th to me) their OS-9 68000 port for the Atari to the public for the first time (in Atari's booth, I'm told). I'm sure that this will find its way to Infoworld's pages sometime in May, but we (the OS-9 Users Group) scooped Infoworld.

You may ask why this is important. There are several reasons. First, it shows that the UG officers are out there in the forefront, finding out the latest and most important information for the members of the UG. Secondly, it enables us to be prepared for the addition of new OS-9 users on a new machine. If you are an old-timer (non-CoCo), you may remember the state of shock that hit the UG when OS-9 came out on the CoCo. Here came literally hundreds of uneducated OS-9 users, with questions that the UG was really not prepared for. By working more closely with the OEMs that are bringing new OS-9 products to the market, we can prevent being surprised again.

Thirdly, let me remind you of Tim Grovac's letter of resignation from the office of Editor of the MOTD (as printed in the January MOTD). Tim mentioned his disappointment with the MOTD getting information second-hand. We had never had a scoop; never had a new product review; never had enough copy. Fortunately, these are all things of the past! I know that this makes Tim happy to see (by the way, welcome back to the pages of the MOTD, Tim).

The OS-9 Users Group was established and is maintained to promote the exchange of information between people who share a common interest, OS-9.

Welcome To Our Cousin: CD-RTOS

Welcome CD-RTOS to the OS-9 family. CD-RTOS (Compact Disk — Real Time Operating System) is the name used to describe the special version of OS-9 68000 that used as part of the CD-I standard for Interactive Compact Disk systems. As promised in last month's issue, we have a CD-I update in this MOTD. As of this writing, there still has not been an official national release of this information, to my knowledge. There has been a mention of the 68070 in one of the Infoworld articles about the CD-I standard. Marc Johnson is digging up the info on the 68070, and should have that to share with us by the next issue.

Rumors, Anyone

As always, the OS-9 Community is not

at a loss for rumors. There are rumors of new 68000 machines, new 68020 machines, new 6809 machines (from Tandy?), new releases of OS-9, new releases of OS-9 software products, etc. And, as there always is, there is truth to most of these rumors. I have received many letters in the last month or so asking about some of these rumors. One of the only bad things about being President of the OS-9 Users Group is that you know a lot of information that cannot be talked about (at least, not yet). Well, that may not sound like a bad thing (and it's not, really), but before being in this position, I enjoyed being a part of the active rumor-mill. Rumors are always fun! I guess what I am trying to say is, "Yes, I may know but, no, I can't comment on it." Sorry. But you can be assured that if these rumors become reality, you will read about it in the MOTD.

Last Word On RAINBOWfest Chicago:

Those of you in the Chicago area, please check out the information in this MOTD about the RainbowFest in Chicago, May 23-25. The RainbowFests have proven to be a great time for people to learn more about OS-9, from both the seminars and the UG booth. In Palo Alto, there were scores of people who came to the UG booth loaded with questions, from the beginners level, to very complex questions on advanced OS-9 topics. Most of the "shakers and movers" of the OS-9 Community will be there, including Bill Turner, Bruce Warner, Dale Puckett, Steve Bjork, Frank Hogg, George Dorner, Bill Moore, myself, and lots more!

We will be having at least one raffle; a no cost raffle with the prize being a copy of OS-9 for the CoCo. We hope that this will attract a lot of non-OS-9 CoCo owners to the UG booth, so that we can tell them what they are missing by not using OS-9. Thanks to Fran McGehee, Marketing Information Representative for Tandy Corporation for arranging for the OS-9 software to be donated to the UG for this raffle.

And while I'm on the subject of Fran and Tandy, let me publicly express the appreciation of the OS-9 Users Group, its officers, and myself in particular, to Tandy (through Fran) for its complete cooperation in everything that we have asked. For example, for this raffle, I called Fran to ask if we could purchase the OS-9 at a discount from Tandy for the raffle. She called me back a few minutes later and told me that she had gotten permission to donate it to us! I don't know why other organizations have trouble getting along with Tandy. In every communication and instance, Tandy has been one of the nicest and most helpful companies that the UG has dealt with. Hats off to Tandy for being the "friends in the industry" that they have, and to Fran McGehee for being the super person that she is.

OS-9 Roundtable On Genie

GENIE, the telecommunications vehicle owned and supported by GE, has started an OS-9 Roundtable. GENIE's roundtables are comparable to the SIGs on Compuserve and the GROUPs on

Delphi. Heading up the GENIE roundtable will be one of our own members, William (VAN) Van Ness, formerly the SysOp of the OS-9 SIG on Compuserve. I'll give you more information after we've had a chance to check it out further.

Be A "Bix"-Shot!

What's BIX? We in the OS-9 community might not be familiar with BIX, but we need to be. The Byte Information eXchange (BIX) is Byte magazine's telecommunications project, run by 15 68000 processors. BIX obviously will be evolving and making improvements (they are currently running UNIX, so they can make a great improvement immediately by changing to OS-9).

One of the best kept secrets of BIX, has been an OS-9 conference, which has been in existence for some time. Since we didn't know it was there, we couldn't help spread the word. Needless to say, the OS-9 conference hasn't been one of the busiest ones.

Well, I found out about this when I was given some news even more exciting. Two weeks in May (tentatively May 9-23) there will be a OS-9 68000 conference on BIX. This will be to help answer questions specific to the Atari OSK and generic to OSK. If this conference is successful, then Byte will be more likely to give OS-9 68000 a greater treatment in their 68000 processor "theme" issue later in the year.

In order to provide the proper information from the proper people, BIX has lined up six companies/individuals to actively participate in the conference during the 2 week period. The six are TLM (producers of the Atari port), Microtrend (distributors the Atari port), Microware (obvious reasons), Peter Dibble (wise choice), Frank Hogg (since FHL is one of the biggest OSK computer companies), and myself (I presume this is because I am President of the UG).

For information about BIX, write to them at 70 Main St., Peterborough, NH 03458. or call (603) 924-9281 ext. 131 8:30 a.m. to 4:30 p.m. weekdays, eastern time. Further information can be found in the February issue of Byte.

OS-9 Evangelists Unite

I have gotten an overwhelming response to last month's column. I guess that I am not alone in believing that it's about time we dropped the "war of the hardware" and eliminated the "us versus them" mindset. In the past, we (the OS-9 doormats) have been stepped on, maligned, ridiculed, and ignored in the marketplace. Byte has only mentioned OS-9 two times, that I'm aware of. I had never seen a mention of OS-9 in Infoworld before last month. Where we have succeeded, we succeeded because the MS-DOS crowd (formerly the CP/M crowd) did not feel threatened by us, usually because they weren't interested in that particular battle.

OS-9 Evangelists should begin now spreading the word. We offer more capability, greater speed, multi-tasking (now, not at some time in the future), multi-user, ROM-able code, re-entrancy (XENIX and UNIX take note), with a wide variety of machines that run our OS (from CoCos & Ataris to VME-bus

systems, from control applications to super-powered 68020 machines).

We now have the opportunity. The computer community has heard our name. They now want to meet us. They want to get to know us. They want to find out what makes us "tick." If we unite together and show an attitude of cooperation, with a willingness to help, we can Evangelize the computer community.

Mission Impossible?

OS-9 user, your mission (should you choose to accept it) is to promote OS-9 to the public. The first battle will be fought on BIX, next month. All of you who can, be present on the OS-9 68000 conference on BIX. Even if you are a 6809 user, join us. OS-9 is OS-9. The 68000 version has a few enhancements, but you can feel free to talk intelligently, if you are familiar with 6809 OS-9. And if you do not feel technically knowledgeable enough to answer questions, ask questions. Maybe you would like to know the differences between the two versions of OS-9. One way or the other, show up on BIX, if for no other reason then to tell BIX and Byte that the OS-9 Community is strong, cooperative, and is ready to move ahead.

Is OS-9 Worth 88 Cents To You?

I presume it is to all UG members, since you have already spent \$25 for your membership (and hopefully, haven't regretted it!). The second battle of your mission impossible consists of the following: Everyone (UG member or not) that feels that OS-9 is worth 88 cents to them is strongly encouraged to do the following:

1) 22 cents: Write to Infoworld (Infoworld; Attn: Jonathan Sacks, Editor-in-Chief; 1060 Marsh Road, Suite C-200; Menlo Park, CA 94025) on May 12th (or as soon afterward as you can). Tell them in the letter that you are an OS-9 user, and a member of the International OS-9 Users Group (if you are). Tell them how happy you are that Infoworld has mentioned OS-9 in the last few weeks, but tell them that the information that they reported was not complete, since those reporting it were not familiar with OS-9. Tell them that you would like to see articles in Infoworld that accurately describe OS-9, and that by contacting the OS-9 Users Group they can be directed to someone who could help them. Give them the UG's address marked "Attn: President."

2) 44 cents: Send a copy of the letter you send to Infoworld, to the UG officers (marked "Attn: President").

3) 66 cents: Write a second letter to Infoworld on May 26th (or as soon afterward as you can). Brag on them, telling them what a vital need they are supplying with their magazine. Ask them if they received your letter of May 12th. Inform them that you were serious in wishing to see more OS-9 coverage in Infoworld. Again inform them of the UG's address, for further information.

4) 88 cents: Send a copy of the second letter that you sent to Infoworld, to the UG officers (marked "Attn: President").

This will do several things. First, it will show Infoworld that the OS-9 Community is larger than it perceives it to be. Second, it will show them that the OS-9 Users Group is an organization that they should find out more about. Thirdly, it will show the UG officers whether or not the membership of the UG is really serious about making OS-9 a household word. Though each individual 88 cents might not seem like much, multiply it times the 1300 members of the UG, and you find the UG committing \$1144 in postage to support OS-9, with Infoworld receiving 2600 letters from the UG. Be a part of something really special!

pendent" items, this is pure OS-9/68000. The ST runs OS-9 like it was created for it! I was very pleasantly surprised at the efficiency of the Atari for multi-tasking.

Disk Specifics

The Atari 3.5-inch drives are quite efficient when running under a good OS. The format used is the same one used for TLM's IBM co-processor board. The format is double-density on all tracks, using 16 sector per track, even on track 0. A double-sided Atari disk has 2560 sectors instead of 2554 on a "standard" double-density disk. This doesn't generate any real problem, especially under OSK. The disk driver (STFD) supports the two drives, maximum, that the ST's hardware supports.

Printer Support

The pre-release, BETA test copy that I received did not have the printer driver on it, since it wasn't complete at the time. Since the ST has a parallel printer port, this should be a piece of cake (I will probably write one of my own, in the interim).

Terminal Support

The serial port driver (STSIO) supports the /T1 terminal. The hardware limitation of only one serial port is one being looked into by many sources.

Console I/O Support

The keyboard and screen I/O is handled by the console driver, STCIO. Since some of the BIOS (now Trap #12) and XBIOS calls of the TOS are used, most of the screen features are available to you under OSK. The graphics functions are not, though, since they are features of GEMDOS, itself. There is a company that is finishing work on a GEMDOS emulator that will run under Atari OSK. This will add other capabilities to the machine.

And though the graphics functions of GEMDOS are not present, it is still the same hardware. I will be disappointed if someone doesn't come out with a Graphics Trap Handler, that will give the same type features for use with OSK programs.

The escape sequences of the BIOS are used, giving you a good start for screen functions, such as:

ESC A	Cursor up
ESC B	Cursor down
ESC C	Cursor right
ESC D	Cursor left
ESC E	Clear screen/Home cursor
ESC H	Home cursor
ESC I	Cursor up w/scroll on top line
ESC J	Clear cursor to end of screen
ESC K	Clear cursor to end of line
ESC L	Insert line
ESC M	Delete line
ESC Y	Cursor positioning (followed by "y" and "x", offset by \$20)
ESC b	Select character color
ESC c	Select background color
ESC d	Clear top of screen to cursor position
ESC e	Enable cursor
ESC f	Disable cursor
ESC j	Save cursor position
ESC k	Set cursor to the saved position
ESC l	Clear entire cursor line
ESC o	Clear cursor line from start to cursor position
ESC p	Reverse video on
ESC q	Reverse video off

You can also set the screen colors (if using a color monitor) by using the ALT key with the F7-F10 keys to change background color, foreground color, cursor color, etc.

Hard Disk Support

At the time of this writing, TLM was completing their Hard Disk driver (STHD, I presume). I am told that this will work with the Supra hard disk, as well as the Atari model.

A Wish List

There were several things that I have already found to place on my ST-OSK wish list. Now understand, my wish lists are a little different from most people's wish lists. My wish list does become reality, in one way or the other. Hopefully, the original producer of the product adds these items to their "official" version of the product. If not, I go through and make my own "special" version.

My software wish list isn't very long (yet). First, an easier way to disable the keyclick. It is possible with a BIOS call, but a ESCAPE sequence or utility would be easier. Second, is as already mentioned, a graphics Trap handler of some sort. Why have the capabilities that this machine has, and not use them? Third on my list, is some sort of IMPORT/EXPORT utilities, to transfer files from GEMDOS format to OSK, and from OSK to GEMDOS. Fourth, is a re-definable keyboard, with programmable function keys (there again, why have function keys, if you are not going to use them).

My hardware wish list simply has a hard disk (soon to be obtained) and additional expansion capability. This is not easily done, but I believe it to be possible.

For More Technical Help

The best book I've found on the guts of the Atari-ST, is *Atari ST Internals* by Abacus Software. This will give you a pretty good idea of what is going on with the hardware.

To Sum It Up

If you have an ST, or wish to have a compact 68000/OS-9 system, I would seriously consider the Atari OSK to you. It is a good port, of a great operating system! It uses the ST hardware very efficiently. In my testing, I have not found a way to crash the system, and have not found any software incompatibilities (at least, not yet).

I believe that TLM will help Atari to sell a great many STs with this port of OSK. After all, why else would an OS-9 Junkie like me have bought an ST if it had not been for OSK?

BUYING ANOTHER COMPUTER

by Tim Grovac

Some time ago I wrote an article to the first time computer buyer about what kind of things should be considered when buying a computer. In this article I intend to cover a subject very close to the above, yet also different in some areas. This subject is the buying of your second (or third, fourth, etc.) computer.

I am assuming that most of the readers of the MOTD already own a computer, probably an OS-9 machine. I am one such person, and I am also looking for a new computer. I will not be so unrealistic to rule out even looking at a nonOS-9 machine, but I have run an OS-9 Level II system for five years now and am VERY prejudiced.

First Considerations

The first question one must ask when buying any computer is, "What do I want the computer to do for me?" This question covers both the hardware and the software requirements so let's take one at a time.

Software

Software is what I call "the hidden cost" in buying a new computer. You seldom see a computer advertised with a price that includes enough software to make it work. It is very easy to double your hardware investment with software costs. Most computers come with only the disk operating system and enough utilities to allow you to copy disks, name and rename files, and basic stuff like that. Application software is purchased separately at a very dear price.

This brings us back to our first question, what application software will you need to buy? Here is my minimum list, just for discussion:

1. A screen editor that is easy to work with and has the ability to run both my dot matrix and daisy wheel printer. This is needed by all computer buyers.
 2. A telecommunications program to run my 1200 Baud auto-dial auto-answer modem. This must do all the needed functions such as read, write, save and transfer files, with correct protocol (XMODEM a must!). This also is a must for most computer users in this day and age.
 3. A good Basic interpreter and compiler. (It would be pretty hard to beat Basic09!) Most of us cut our teeth with BASIC and still prefer it for writing quick and dirty programs.
 4. A fully implemented version of the C language. You probably won't have this on your list but I am hooked on C and wouldn't even look at a computer that doesn't run it.
 5. A flexible database management program for all my lists and records. Something that included a spreadsheet and graphic analysis of the above should do fine. This kind of program is the newest generation software and tends to spoil those who have once used it. It is expensive though, and you may find that your use does not justify the cost.
 6. Games, games and more games. Flight simulators, adventure games, word games, war games and whatever else is fun! I spend most of my time at work in front of a boring computer, at least let me come home and enjoy my home computer. This also is a must if you have kids.
- This is my list of required software.

Now let's consider what kind of computer we need to run all of the above.

Hardware

I'm sure you can see that the list begins to put certain hardware requirements on my new computer. First, it must have graphics that will handle both my database program and my games. Up to now this has been one of the major drawbacks to OS-9 machines. A lack of an agreed upon graphic implementation for OS-9 machines has left software writers out on a limb. Each different OS-9 hardware configuration, if it had graphics at all, had different graphic sets and made it impossible to write the generic OS-9 graphic package. The Color computer had enough sales to attract some specialty writers, but unfortunately didn't have enough memory to run complex programs. Hopefully, the new CoCo, whenever it is produced, will address these problems.

Secondly, in order to run the type of complex third generation software I want, you need at least a 16-bit processor that is able to directly access at least 512K of memory. In my opinion the MC68XXX processor family is the only way to go. This processor would also meet my requirement for a C language, which usually runs on a UNIX or UNIX-clone such as OS-9.

New Machines

I am certainly not the type of person that must have the latest "state of the art" computer. With so many changes in the computer market you would have to buy a new machine about every month if you wanted to keep up. At the same time I don't feel that you should spend your hard earned money on last year's technology. When you decide to buy another computer buy the newest and best that you can afford. Today's market is making computers with the kind of technology I've discussed for under \$1000, and many of these run OS-9.

Going To The Store

Before you walk into the computer store make sure you have your list of required software with you. Hand the list to the salesman and tell him you need a computer that will run these programs. If he has more than one computer that meets your requirements then compare the prices of both systems including software. Also check warranty and service details. If your new computer breaks where do you take it? Ask about expansion capabilities and peripherals.

Once you have decided on the computer you want, shop around. Many computer stores will offer special package deals if they know you are a serious buyer. Also check magazines for mail order prices on the computer, you can save hundreds by ordering direct. Many OS-9 computers can only be purchased by mail. Call the dealers first and discuss all your software requirements before making your decision.

A Final Word of Wisdom

The old adage, "You get what you pay for" is pretty much true with computers. The better machines do cost more. I often compare buying computers to buying stereo equipment. Both the \$69 and \$690 stereo will play the same record, but the more expensive will do it better, longer, and with more user satisfaction over the years.

EXTRA COCO RAM IT'S LIKE MONEY IN THE BANK

a review
by Bruce N. Warner

One of the nicest things about being an editor of a computer publication is that you get to see new software and hardware coming out for a computer system and seeing how excited companies are to have their product seen.

The other day I received a package from Purolator Courier. It came from Canada. Then, at 8 p.m. on the same evening, I was amazed to hear a knock on the door and see a UPS truck out front. The first package was from CRC Computers and contained their Super RAM Disk. The second was from J&R Electronics and held their 512K Banker. Each wanted their product reviewed by the MOTD. Having seen the Banker displayed at a recent meeting of the Northern Virginia Color Computer Club and owning the 256K Banker, I wanted to get a closer look at the 512K version. Tony DiStefano has a reputation for developing great hardware for the CoCo, so I decided to do a comparative review myself.

The Hacker's Option

While the Disto Super RAM Disk only comes fully assembled and tested, the Banker can be purchased in varying stages of completion. It comes as a parts kit; bare board (go buy the parts yourself); assembled and tested without memory; and fully assembled and tested for both the 256K and 512K versions. The version sent to the MOTD was assembled and tested, but included the instructions for hardware hackers to build their own. The instructions are clear and to the point, identifying all test points and possible problem areas.

The Banker is well marked for chip and component location. All components and contacts are plainly marked and easy to identify. The kit is designed by a true

hacker, but looks out for the true novice. Parts are very close, and sloppy solder jobs are not forgiven. J&R does not recommend that a novice attempt this as a project.

For The Rest of Us

Since the Banker can be and the Disto Super RAM Disk is only purchased as an assembled and tested unit, I'm glad to have both units in their assembled and tested state. I'm not into serious hardware hacking.

How much memory? The Banker has a total of 512K RAM in the system. The Disto has 256K (or 512K) plus any system RAM. A nice feature about the Banker is that the assembled and tested version doesn't use piggy-backed chips, a practice I have a great dislike for. The Banker uses a satellite board that plugs into the SAM socket (the SAM chip then plugs into the satellite board) and a series of jumpers that can be plugged into either the two (Korean board) memory sockets or the eight (other) sockets. The Banker then has a remote board that holds the memory chips. There are 16 memory sockets on the remote board! Enough room for the entire 512K upgrade. On top of that, the remote board can easily fit under the CoCo keyboard.

Through a shipping error, the Disto board arrived without the driving software. The Banker came with both OS-9 and Disk BASIC drivers. Dale Puckett had the OS-9 drivers for the Super RAM Disk, so I drove up to his house to pick them up. There are a lot of utilities for your 512K Banker, I'm not sure how many will come with the Disto board. For the OS-9 purist there's only the RAM disk for both versions because most of the other features are built into OS-9.

Why have a printer spooler when you can spool print as an added task? Why have a special function for a word processor when you use spooled memory anyway?

Just so you know what comes with the Banker under Disk BASIC:

- 1) RAM Disk
- 2) Telewriter-64 ram disk utility
- 3) PCOPY extender (up to 302 graphics pages)
- 4) demo program of PCOPY capabilities
- 5) printer spooler
- 6) bank copy program to use the CoCo as up to eight 64K CoCos
- 7) quick backup utility to make multiple backups of a single disk (includes an option to format the new disks)
- 8) program to examine any of the pages of the Banker's memory
- 9) program to fix software incompatibility
- 10) BASIC subroutine to change the characteristics of a drive from a BASIC program
- 11) new BASIC command to select any memory page for program execution or for transferring variables between pages (source code included for writing your own programs with over 480K of variable storage)
- 12) OS9BTFIX to make your OS-9 disks bootable with the Banker installed.

The amount of effort that has gone into making sure the Banker is easy to use with minimum hardware knowledge is amazing. Their newest version appears to work with all versions of the Color Computer. Those versions with soldered in RAM and/or SAM chips will require some soldering even with the assembled and tested version.

The Super RAM Disk is also a simple item to install, it slips into slot #2 of the Multi-Pak interface. No soldering, no opening of the case.

Which Works How?

The real considerations for RAM Disks involve their access time and ease of use. With this in mind, I decided to make the test for copying a LONG file to and from the same RAM disk with the

COPY and DATE utilities in memory. Running with a real time clock and using the shell command "date t;copy file1 file2;date t", I came up with almost no difference in execution time. Next I tried the same thing accessing the RAM Disks using a C compiler. The same results were found. The differences in access times are not worth noting.

It's also fair to state that both operate flawlessly on all three of my Color Computers. They work so well, that I can have both of them on line at the same time. I have the banker descriptor named "/b" and the Super RAM Disk named "/r0" all in memory at the same time.

So which should you choose? Here's how I look at it.

a. The Disto Super RAM Disk is about \$10 more than the Banker.

b. The Banker requires that you open up your CoCo and install it inside the computer. The Disto Super RAM Disk requires the Tandy Multi-Pak Interface (it will not work with a CC-BUS or a Y-Cable). One voids your 90-day warranty and the other eats up one of those valuable slots in the multi-pak.

c. All driving software is included in the cost of the Banker, it may or may not be extra for the Super RAM Disk (no indications from CRC).

d. Choice of developers are "Turn of the Screw" Tony DiStefano and "Doctor ASCII" contributor Jesse Jackson.

What You See They Can't Get

Under OS-9 you can now buy a standard system expanded beyond the RAM capabilities of any MS-DOS machine. Mine has a total of a meg of RAM, five meg of hard disk storage and two double sided 40-track floppy drives. You can close in on my system and have fun doing it. The choice of methods is yours.

DISTO:
CRC Computers Inc.
10801 Lajeunesse
Montreal, Quebec
Canada H3L 2E8
(514) 383-5293

Banker:
J & R Electronics
P.O. Box 2572
Columbia, MD 21045
(301) 987-9067
(301) 788-0861

SOME OF THE WORLD'S GREATEST HEROES

by Bruce N. Warner

Have you ever seen the funny guy in the "red jammies" that can't fly straight? Believe it or not, Ralph is one of my favorite super heroes. It's not because he does everything right, it's because he does it, even though it's wrong.

For the past few months we've been hitting on you to start writing for the MOTD. Some of you have gotten the word, and we've got another new author this month to prove it. Others are just sitting back and reading. Where do all those words come from? The come from the hard work of your fellow OS-9ers. Bill Turner, Brian Lantz, Dale Puckett, Dave Kaleita, Burt Schneider and myself aren't the only writers in the OS-9 community. We're only the ones that are willing to get something down every month, without fail.

Now it's your turn. When Tim Grovac was stumped for an idea this month, I asked what he was doing with OS-9. He said he was getting ready to buy a new OS-9 system. I asked why he would want a new one. He started to explain and I said, "Look, Tim, that's exactly what we're looking for in the MOTD. We need some articles on what people are doing. Some of the more experienced people in the community can help by telling what and why."

Now it's your turn. It doesn't matter what you're up to, send it to the editor, and we'll all be glad to share the information. Be a MEMBER of the UG, learn and share what you know. You may be surprised how much you know when you put it down in words.

CAN I PLACE AN AD?

It hadn't dawned on me that there are a lot of people out there that want to advertise in the MOTD that aren't already advertising in other publications. So what do they do?

Well, here's the deal! You start out by getting your ad made up (called camera ready copy). When that is completed, you submit your ad with a check made out to the OS-9 Users Group and send both to:

Editor, the MOTD
c/o Bruce N. Warner
14503 Fullerton Road
Dale City, VA 22193-2034

The price for advertising in the MOTD is based on the size, location and number of colors (colors limited to black and red). This chart explains more completely.

Special rates are available for ads running for six or more months consecutively. Rates are higher for the special issue that will be inserted in RAINBOW magazine. These rates will be published at a later date.

You'll have to make sure that you've included your camera ready copy and a check for payment made out to the OS-9 Users Group. The deadline for entries is the first of every month for the issue beginning the following month.

	REGULAR		SPECIAL (back cover)	
SIZE	1-Color	2-Colors	1-Color	2-Colors
Full Page	\$400	\$480	\$500	\$600
Half Page	\$200	\$240	\$250	\$300
Quarter Page	\$100	\$120	\$125	\$150
Eighth Page	\$ 50	\$ 60	\$ 62.50	\$ 75



at RainbowFest Chicago May 23—25, 1986

Come see:

Dale L. Puckett, Director-at-Large

Brian A. Lantz, President

Bill Turner, Vice President

Bruce Warner, Editor, MOTO

Have breakfast Sunday morning with Microware representative, Bill Moore

...get the straight answer for what's coming down the line.

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Get advance tickets by writing:

DS-9 Users Group

ATTN: Breakfast

Suite #330

9743 University Ave.

Des Moines, Iowa 50322

Sign up a friend

Solve problems

Meet a Hero (of DS-9)

Get answers

Share knowledge

Make friends

Renew membership

PROGRAM OF THE MONTH

C a little C

This month's program is really two. They are both written in C and come off of File Maintenance Disk #2 (Volume #21). "Owner" is written by Carl R. Kreider, a long term, active contributor to the UG library. "D" is by Timothy Allen Harris. Both are extremely useful, well documented C utilities.

Owner

Usage: owner <name or number> [file1 file2 ... fileN ... dir]

Owner is used to make changes to the owner number of the files (or directories) that the user "names" or to the user number given. Anyone can change their file to someone else, but only the super-user can change another users file owner. Accepts files on the command line or from standard in.

The listing

```
/*
** change owner of files
**
```

```
** note - needs special chown.a to be able to change owner
**       of a directory. library version won't to that.
**       - owner accepts two input formats:
**         owner user_name file ... file   if your names are unique
**         owner user_number file ... file if not
**
** copyright 1984 by Carl R. Kreider
** released to the public domain for non-commercial use
**/
```

```
#include <stdio.h>
#include <ctype.h>
#include <os9.h>
#include <direct.h>
#include <errno.h>
```

```
#define READ 1
#define STDERR 2
```

```
int oldid,
hit,
i,
uno,
fd,
stream = FALSE,
update = FALSE,
isword = FALSE;
```

```
char *p,
c,
line[132],
user[255];
```

```
struct registers reg;
struct fildes fdbuf;
```

```
/*page*/
main(argc, argv)
int argc;
char **argv;
{
    p = **argv;
    if (*p == '-')
        if ((c = p[1]) == 'U' || c == 'u')
        {
            update = TRUE;
            p = **argv;
            --argc;
        }
        else
            help();
    uno = 0;
```

```
    if (oldid = getuid())
        setusrid(0);
    strcpy(user, p);
    getuser();
    if (argc == 2)
        stream = TRUE;
    else
        --argc;
    while (--argc)
```

```
    {
        if (stream)
        {
            if (gets(p = line) != NULL)
                ++argc;
            else
                break;
        }
        else
        {
            p = **argv;
            if (hit = chown(p, uno, oldid))
            {
                if (hit == E_FNA)
                {
                    writeln(STDERR, p, strlen(p));
                    writeln(STDERR, " is not your file\n", 80);
                }
            }
            else
            {
                writeln(STDERR, "can't set ", 10);
                writeln(STDERR, p, strlen(p));
                writeln(STDERR, "\n", 1);
            }
        }
    }
```

```
/* use std input *
/* prevent quit *
/* bail out *
```

```
/* use a parm *
```

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```

    }
    if (oldid)
        setusruid(oldid);
}
/*page*/
/*
** process the user field
*/
getuser()
{
    p = user;
    while (*p)
        if (isalpha(*p++))
            isword = TRUE;
    if (isword)
    {
        strcat(user, ",");
        if ((fd = open("/d0/sys/password", READ)) == -1)
        {
            writeln(STDERR, "can't open password file\n", 99);
            _exit (0);
        }
        while (TRUE)
        {
            if (!readln(fd, line, 132))
            {
                writeln(STDERR, user, strlen(user)-1); /* not ', */
                writeln(STDERR, " not found\n", 99);
                _exit (0);
            }
            if (strncmp(line, user, strlen(user)) == 0)
                break; /* found him */
        }
        close(fd);
        p = line;
        for(i = 0; i < 2; i++)
        {
            while (*p++ != ',')
                ;
        }
        while (*p != ',')
        {
            uno = uno * 10 + (*p) - '0';
            p++;
        }
        else
            uno = atoi(user);
    }
}

```

```

/*
** NOTE we must do this because the MW library only lets the
** super user set user id's
*/

```

```

setusruid(no)
int no;
{
    reg.rg_y = no;
    _os9(F_SUSER, &reg);
}
/*page*/
/*
** need our own chown
*/
chown(s, newown, oldown)
char *s;
int newown, oldown;
{
    if ((fd = open(s, (update ? 2 : 1))) == -1)
        if (errno != E_FNA)
            return (errno);
        else
            if ((fd = open(s, 0x82)) == -1)
                return (-1);
    lgetstat(fd, SS_FD, &fdbuf, 16, 0);
    close(fd);
    if ((oldown != 0) && (oldown != fdbuf.fd_own))
        return (E_FNA);
    fdbuf.fd_own = newown;
    if ((fd = open(s, 2)) == -1) /* open for write this time */
        fd = open(s, 0x82); /* so must be a directory */
    lsetstat(fd, SS_FD, &fdbuf, 16, 0);
    close (fd);
    return (0);
}

```

```

/*
** local getstat
** r_a = path number      r_b = code
** r_x = parameter        r_y = parameter      r_u = parameter
*/

```

```

lgetstat(r_a, r_b, r_x, r_y, r_u)
char r_a, r_b;
int r_x, r_y, r_u;
{
    reg.rg_a = r_a;
    reg.rg_b = r_b;
    reg.rg_x = r_x;
    reg.rg_y = r_y;
    reg.rg_u = r_u;
    if (_os9(I_GETSTT, &reg) == -1)
        _exit (reg.rg_b);
    return (reg.rg_b);
}

```

```

/*
** local setstat
** r_a = path number      r_b = code
** r_x = parameter        r_y = parameter      r_u = parameter
*/
lsetstat(r_a, r_b, r_x, r_y, r_u)
char r_a, r_b;
int r_x, r_y, r_u;
{
    reg.rg_a = r_a;
    reg.rg_b = r_b;
    reg.rg_x = r_x;
    reg.rg_y = r_y;
    reg.rg_u = r_u;
    if (_os9(I_SETSTT, &reg) == -1)
        _exit (reg.rg_b);
    return (reg.rg_b);
}

help()
{
    writeln(STDERR, "Usage: owner <user name> <file> .. [<file>]\n", 99);
    _exit (0);
}

/* strncmp
** compares s2 to s1 thru null on s2 or at most n chars
** returns 0 if equal thru null, or s1 > or < s2 at the nth char
*/
strncmp(s1, s2, n)
register char *s1;
char *s2;
int n;
{
    while ((n-- > 0) && (toupper(*s1) == toupper(*s2))) {
        if (*s2++ == 0)
            return (0);
        s1++;
    }
    return ((n < 0) ? 0 : (toupper(*s1) - toupper(*s2)));
}

```

Utility — Directory

The d utility is a new directory command similar to ls in UNIX, which prints files in the current data directory to standard output. The files are listed one per line instead of several per line as in the usual dir command in OS-9. This feature allows the output of d to be used by other utilities, like dl and wc. D also includes a wild card option so you can output only files with certain characteristic patterns.

The d command has two options only, -? and -w. The -? will output a help message and the -w will turn on the wild card matching for the command. There are two wildcard characters that can be used, ? and *. The ? is a single character wildcard while the * is a multiple character wildcard. For example, a?c matches "abc", "adc", "acc", etc. You can use the ? wildcard also to match only files of a given length, for example ??? matches names with four chars, ??? matches names with three chars only, etc.

The * wildcard can be used in three ways. In the front as in *.c, it matches any names ending in ".c". In the back, as in ab*, it matches any names beginning in "ab". In the middle, as in *a*, it matches any names with an "a" in the middle.

Some sample calls with just the d command are:

```

d          lists all the current directory
d -w *.c   lists files ending in ".c"
d -w c*     lists files beginning with "c"
d -w a?c    lists files "abc", "adc", ....
d -w ???    lists files with three char names
d -?        prints help message

```

The d utility can also be used with other utilities in the package. It is most effectively used with dl but others could also be used. With dl you can pipe the d output to delete a list of files, using the -z option of dl (see section on dl). In this way you can delete all files in a directory with one line or delete all files matching a given pattern with a one line command.

Example calls with dl are:

```

d ! dl -z      deletes all files in current directory
d -w *.c ! dl -z  deletes all files ending in ".c"
d -w ?? ! dl -z  deletes all files with 2 char names

```

You could also use d with other utilities in the package to get other results. For example, piping the output into wc will give the count of files in the directory:

```

d ! wc -l      prints count of files in directory
d -w *.c ! wc -l  prints count of all ".c" files

```


The listing

```

/* d utility 01.20 : directory with pattern matching          */
/* lists current directory with one                          */
/* entry per line.                                           */
/*
/* CoCo OS-9 v01.00.00      Microware C Compiler             */
/*
/* Copyright (c) 1984      Tim Harris                        */
/*                          651 Pammel Court                  */
/*                          Ames, Iowa 50010                  */
/*
/* uses stdout for output so it may be piped or redirected   */
/* can be used with other utilities, i.e., dl (delete)       */
/*
/* Options:      -w      wild card matching                  */
/*               ? - single char wildcard                    */
/*               * - multiple char wildcard                  */
/*               -?      help message                         */
/*
/* Calls:        d      lists current directory              */
/*               d -w *.c lists files ending in '.c'          */
/*               d -?    generates help message              */
/*               d -w c*  lists files beginning with 'c'      */
/*               d -w *c* lists files with a 'c' in them      */
/*               d -w a?c lists files abc,aec,a.c,...         */
/*               d -w ???* lists files with four chars       */
/*
/* Calls with other utilities:                               */
/*   d -w *.c ! dl -z   deletes all files ending in '.c'     */
/*   d -w ??? ! wc -l   counts number of 3 char filenames    */
/*   d ! sort           prints sorted directory               */
/*
#include <stdio.h>
#include <ctype.h>
#define DREAD 129
#define ENTSIZ 32
#define TRUE 1
#define FALSE 0

/* Types for patype */
#define REG 0 /* regular exact match w/ ? wildcard */
#define BOL 1 /* match at Beginning Of Line */
#define EOL 2 /* match at End Of Line */
#define MID 3 /* match in MIDDLE of line */

char dname[2] = {'.','\0'};
int patype = REG; /* default to exact or ? match */
char pat[29];

main(argc,argv)
int argc;
char *argv[];
{
    char c,fname[30],entry[32],*s;
    int i,dp,woption=FALSE;

    while (--argc > 0 && (++argv)[0] == '-')
        for (s=argv[0]+1;*s!='\0';s++)
            switch(*s){
                case 'w':
                    woption = TRUE;
                    getpat(++argv);
                    break;
                case '?':
                    help();
                default:
                    printf(" d: illegal option %c\n",*s);
                    exit(0);
            }

    if ((dp=open(dname,DREAD))== -1){
        printf(" Can't open default directory\n");
        exit(0);
    }

    while ((read(dp,entry,ENTSIZ))!=NULL){
        if (entry[0]!='\0'){
            i=-1;
            do{

```



```

        c=entry[++i];
        fname[i]=toascii(c);
    }while(isascii(c)!=FALSE && i<=29);
    fname[++i]='\0';
    if (fname[0]!='.')
        if (woption){
            if ((isin(fname))!= -1)
                puts(fname);
        }else
            puts(fname);
    }
}
close(dp);
}
help()
{
    printf("\n d: directory utility\n");
    printf(" lists current data directory, one entry per line\n");
    printf(" options: -w      wildcard matching\n");
    printf("             ? - single char wildcard\n");
    printf("             * - multichar wildcard\n");
    printf("             -?      help message\n");
    printf(" call:      d <-? || -w pattern>\n\n");
    exit(0);
}

getpat(s)
char s[];
{
    int ln,i,j=0;

    ln=strlen(s);
    ln--;
    if (s[0]=='*' && s[ln]=='*')
        patttype=MID;
    else{
        if(s[0]=='*')
            patttype=EOL;
        else
            if(s[ln]=='*')
                patttype=BOL;
    }
    for(i=0;s[i]!='\0';i++)
        if(s[i]!='*')
            pat[j++]=s[i];
    pat[j]='\0';
}

isin(s)
char s[];
{
    int i,j,k,ln,pl;

    switch(patttype){
    case REG:
        for(i=0;s[i]!='\0'&&(s[i]==pat[i] || pat[i]=='?');i++)
            ;
        if(pat[i]=='\0' && s[i]=='\0')
            return(i);
        else
            return(-1);
    case BOL:
        for(i=0;pat[i]!='\0'&&(s[i]==pat[i] || pat[i]=='?');i++)
            ;
        if(pat[i]=='\0')
            return(i);
        else
            return(-1);
    case EOL:
        pl=strlen(pat);
        ln=strlen(s);
        for(j=ln-pl,k=0;pat[k]!='\0'&&(s[j]==pat[k] || pat[k]=='?');j++,k++)
            ;
        if(pat[k]=='\0' && s[j]=='\0')
            return(j);
        else
            return(-1);
    case MID:
        for(i=0;s[i]!='\0';i++){
            for(j=i,k=0;pat[k]!='\0'&&(s[j]==pat[k] || pat[k]=='?');j++,k++)
                ;
            if(pat[k]=='\0')
                return(i);
        }
        return(-1);
    }
}

```


LETTERS TO THE EDITOR

... your questions and some answers

Gentlemen;

I did receive the MOTD published by Falsoft, but before that the most recent MOTD was September 1985.

On another matter, I've read where others are having trouble getting DynaForm 3.0 to operate as "advertised," and I have had some luck getting the added printer control sequences to work. However, at this point, I haven't been able to get it to direct its output to a disk file, and want to know if anyone has found a solution to this problem. Enclosed is the "DF.INIT" file that I'm using currently. Note that all of the control sequences

have been extended to an even number of characters by using nulls (00). This was found to be necessary after having DynaForm and the system go "out to lunch" with an odd number of characters in the sequence. I hope this helps others out!

Dave Williams

.. Epson RS-80
.. Dave Williams N7EAW 5/10/85
.pr /p
.. Boldface (Epson "emphasized")
.bf 27 69

.be 27 70
.. Double-strike
.ds 27 71
.de 27 72
.. Underline — done the "right" way!
.ul 27 45 49 00
.ue 27 45 48 00
.. Italics (Epson "alternate character set")
.ks I 27 52
.ks J 27 53
.. Narrow (Epson "condensed")
.ks N 27 15
.ks R 18 00
.. Wide (Epson "enlarged", line-feed cancelled)
.ks W 27 14
.ds X 20 00
.. Elite (12 cpi)
.ks E 27 77
.ks F 27 80

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Middle: _____
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City: _____
State: _____ ZIP: _____
Phone: (_____) _____
Delphi ID: _____
Computer Make and Model: _____
OS-9 Level: _____ (I) _____ (II) _____ (68K) _____ (CoCo)
Disk Size: _____ (5¼") _____ (8")
Disk Format: _____ (CoCo) _____ (Standard)
Single Sided: _____ Double Sided: _____
of tracks: _____ (35) _____ (40) _____ (80)
Other restrictions, formats, comments, etc: _____

Enclose \$25 to cover the first year's membership in the form of a personal check or money order. Please allow approximately 3-5 weeks for processing your membership. The Users Group has a small staff, and applications are averaging 30 to 50 a week.

Shortly after acceptance of your application for membership, you will receive the current Group newsletter ("MOTD"), and soon after, the "starter" diskette, UG Disk # 0, with software of the type useful in getting you started with both OS-9 and the Users group, including a modem program to assist you with CompuServe access while under OS-9. Additional diskettes may be purchased at a cost of \$5 each to cover the cost of media and postage.

Mail your application and other correspondence to:

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Is this a Renewal? Yes _____ No _____

Editor's Note: In the light of Dave's question, we're rerunning the short article on the missing November MOTD. You'll also find that you are required to give the entire path list when writing to a file from DynaForms. This is a common practice for me, using the J&R Electronics Banker, I have my files go to "/b/printout" from DynaForms. Then I can "list" the file redirecting the output to the printer and run DynaStar at the same time. Remember, the entire pathlist is required! Here's the df.init file I use with my OKIDATA 92:

.pr /b/printout
.bf 27 72
.be 27 73
.ds 27 84
.de 27 73
.ul 27 67
.ue 27 68
.ks N 29
.ks R 30
.. ~~27 41~~
.ks C 27 49
.ks S 27 48
.ks T 27 56
.ks V 27 54
.ks J 27 74
.ks K 27 75
.ks L 27 76
.ks M 27 77
.ks E 28
.ks I 27 50
.af
.fo

Gentlemen;

Would it be possible to open up a hint and tips section in the MOTD? I am running my OS-9 system on a Tandy CoCo (with BASIC09, Pascal and C) and have a few tips as to how to wet up my system. Next, I like the new format of the MOTD, but would it be possible to put it back into its original 8-1/2"x11" size? It is so much easier to store and reference.

Chuck Simet

Editor's note: We're always looking for inputs to the MOTD, so Chuck and everyone else is invited to submit their inputs to the MOTD. Remember though, submit your articles on disk. Going back to the letter size of the MOTD is neither cost effective or practicle. One of the reasons for going to the current size was based the special rates we get by running immediately behind ScoreCard, a newsletter run on the same stock in the same colors we use in the MOTD. Any other combination would be cost prohibitive.

Gentlemen;

I thought I would share some comments on what I have seen of the Users

Group in my three months of membership.

First of all, so that you are aware of my vantage point, I have been using the Tandy Color Computer for more than four years and the OS-9 operating system for about a year. I am founder and presently serve as vice president of the New England COCONUTS Color Computer Club [Box 6604, Providence RI 02940].

I am interested in starting a local "chapter" of the Users Group most likely to operate in conjunction with the COCONUTS.

In regards to MOTD, I applaud the decisions to increase its size and frequency and accept advertising. I would prefer a standard 8½ by 11 inch format to the current "newspaper" style, as I feel it would be easier to use and store.

One thing I would like to see in MOTD is an in-depth study of a decent size OS-9 assembly language program. Although I most certainly would like to see them continue, I think the short utilities have gotten most of the coverage in print.

I am glad to see the increased presence planned for RAINBOWfests. I will most certainly attend the OS-9 Breakfast at this fall's Princeton RAINBOWfest. Why not hold the "annual meeting" at one (or all) of the RAINBOWfests? It would give more Group members the chance to attend and participate.

Robert J. Sullivan, Jr.

Editor's Note: Check out this month's program selection. You may be surprised at the program listing. I know it's not assembly, but we used an assembly listing last month, and we're trying something new each month.

Gentlemen;

We just received the new format MOTD and it looks very clean. When the format was discussed in November, I wondered how a user group newsletter would read, in the tabloid format. Usually, they are flimsy and the ink ends up on your hands. But, so far, so good. Long live MOTD.

Tim Grovac left us with a valuable note. Without input, the best intentions are without substance. We at Ultrascience hope to be contributing our Pros and Cons column to MOTD very soon.

We are glad to see you offer an encouragement to advertising and advertisers. An important service, and one which encourages advertising, is active solicitation of press releases from the membership at large, for new products and developments in both hardware and software.

Press releases are like a public service announcement; they are supposed to inform, not actually sell. The press release allows potential advertisers the chance to see how effective a real advertisement might be, when they include pictures, prices and other embellishments. This also gives the small-time software developer the chance to be heard with the big guys, since the content is limited and all press releases look generic.

We encourage you to try this simple approach in the MOTD. I think that you will be offering a valuable service to readers, potential advertisers and increase the content of MOTD without being patronizing to any one party or special interest.

If there is any way we can contribute to the success of the OS-9 Users Group and/or MOTD, let us know.

Russ Robertson
Ultrascience

A 256K MEMORY BOARD KIT

by Tim Grovac, Associate Editor

Some of you may recall reading in 68 Micro Journal some months ago a letter from Keith Jeffery. He is a 68XX enthusiast and has produced a 256K memory board for the SS50 computer. Being an old kit builder from way back, I couldn't help but send Keith \$85 for a blank board and documentation.

About three weeks after I sent in my money I received a nice letter informing me that mine was the first order from the USA and that the boards would be ready in about a month. Keith runs a SWTPC OS-9 system running Flex, Uniflex and asked me if there was an OS-9 version to support his system. (I don't know, maybe you SWTP users out there can inform me . . .)

The board and manuals arrived on time and I dug my old soldering iron out of the closet and got ready to smoke! Documentation was good, the parts list was pretty straight forward except for one delay line module needed for 2MHZ operation. Keith included the name and address of the manufacturer of this odd part with the board, a company in California. When I called this company, however, they put me through the third degree before selling me the part. Finally, after convincing them that I was someone VERY important they did relent and let me order the part. The next headache came when they informed me that the minimum order was Three. At \$26.50 each there was no way! I had to sweet talk the sales lady into selling me only one — another 10 minutes long distance. All of the other parts were ordered through JDR Microdevices in San Jose, California. Total parts cost: \$230.

Putting The Board Together

All of the parts inhand, I went to work soldering. I don't recommend this board to first-time kit builders. The documen-

tation does not go into any detail on the actual construction of the board. It simply expects you to be able to look at the diagram of the board and be able to put all the pieces in the right place. Actual construction time was about 12 hours, mostly soldering. With the board together and all the voltage regulators in place, before I put on the memory chips, I did all the checks and everything looked good. Finally, I put all the memory on the board and plugged it into my computer. On power up everything looked good, all the memory worked just fine, until I smelled something very hot. As is so often the case in kit building, I purchased a board LM323 voltage regulator which went crazy and ruined four other chips before it died. So one week later and \$35 poorer the board was fixed and worked fine.

More Memory is Nice

The 256K Dynamic Memory Board has been working like a champ for the last three months now. It never skips a beat. The extra memory is really nice to have. But, I have one complaint about the board.

The board is made for a system such as the SWTP that only decodes 16 address lines. What this means is that the top 4K of each 64K block is not usable. This barring only lets me use 240K of the memory. I wrote Keith a letter asking him how I could defeat the barring so that I could use all 256K and he sent me a rather complicated procedure. This fix would include adding another chip to the board and cutting and jumpering about 10 lines. I decided it was not worth the trouble for 16K.

The only other problem I had was the delay line part acquisition. Keith indicated to me that he had considered selling this part with the board, but at over \$20 each he couldn't afford to stock them.

tion dates. You know, that crazy number in the upper right corner of your address label. Right now it states when you joined. Once we've changed the entire database over to Sculpture, we'll be using the expiration date, not the date of membership. Keep that in mind.

When you send in your membership renewal, include all the information on your application and any information on your label that may help us better identify you.

good news. With this issue of MOTD we plan to go monthly. That will require a lot of work on my part, and a lot of help on yours. We plan to make the MOTD a newsletter that everyone can enjoy and a method of sharing information. You can help with anything and everything you might want to write about. It doesn't matter how large or how small a piece it is. Just send us your information, article or program and we'll be glad to pass it on.

WHATEVER HAPPENED TO NOVEMBER?

A lot of people are complaining about not receiving their November issue of the MOTD. There is a logical reason for this. There wasn't one.

At that time, Tim and Lori Grovac were moving to their new home in Great Falls, Virginia and there just wasn't an editor for the MOTD. It wasn't until late December that everything was ironed out and I was named as the new editor of the MOTD. Then came the January issue, and I hope you have all seen that by now.

That's the bad news. Now for a little

LAYOUT FOR ADVERTISERS

Through a special arrangement, the MOTD is now capable of providing typesetting and layout services for our advertisers. We realize that not all potential advertisers have access to commercial advertising companies, so the following arrangements have been made.

Send a paper copy of the information you desire in your advertisement, along with a check for \$30 (up to 1/2 page ad) made out to Bruce Warner. Bruce will

make arrangements with a professional artist to design and lay out your ad. Also include a check made out to the OS-9 Users Group for the actual cost of your ad.

This service is only available to advertisers in the MOTD. The actual artwork is retained at our publishers. The deadline for all copy is the first of the month for all advertisements to appear in the following month's MOTD.

OS-9 Users Group Software Library Volumes — 01/29/86

No.	Done?	Title:	Format:	Who?
0.05	Y	New Member Intro	+++ (40 track, ss)	DK
1.00	Y	Spelling Checker	(35 track, ss)	DK
2.00	Y	Spelling Dictionary	(40 track, ds)	DK
3.01	Y	Word Processing Utils	+++ (35 track, ss)	DK
4.01	Y	Programming Utilities	+++ (35 track, ss)	DK
5.00	Y	File Processing Utils	+++ (35 track, ss)	DK
6.02	Y	Adventure Game (source)	(40 track, ds)	CK
7.02	Y	Adventure Game (object)	(40 track, ss)	CK
8.00	Y	General Interest (demo, games, finance)	(35 track, ss)	CK
9.00	Y	C Programmer's Tool Kit	(35 track, ss)	CK
10.00	Y	Math & Electronics I	(35 track, ss)	GD
11.00	Y	Word Processing Utils (disk #2)	(35 track, ss)	CK
12.00	Y	Programming Utilities (disk #2)	(35 track, ss)	CK
13.00	Y	File Processing Utils (disk #2)	(35 track, ss)	CK
14.02	Y	File Maintenance	(35 track, ss)	CK
15.01	Y	Communication	(35 track, ss)	CK
16.00	Y	Hardware Customizations	(35 track, ss)	CK
17.00	Y	Basic09 Programmer's Tool Kit	(35 track, ss)	CK
18.00	Y	System Utilities	(35 track, ss)	CK
19.01	Y	Languages I: XLisp (source)	(40 track, ds)	CK
20.00	Y	XLisp (object)	(35 track, ss)	DK
21.00	Y	File maintenance (disk #2)	+++ (35 track, ss)	CK
22.00	Y	Programming Utilities (disk #3)	(35 track, ss)	CK
23.00	Y	File Processing Utils (disk #3)	(35 track, ss)	CK
24.00	Y	General Interest (disk #2)	(35 track, ss)	CK
25.00	Y	Word Processing Utils (disk #3)	(35 track, ss)	CK
26.00	Y	C Language Math Library	(35 track, ss)	CK
29.00	Y	File Maintenance (disk #3)	(35 track, ss)	CK
30.00	Y	File Processing Utils (disk #4)	(35 track, ss)	CK
31.00	Y	Hardware Customizations (disk #2)	(35 track, ss)	CK
32.00	Y	Hardware Customizations (disk #3)	(35 track, ss)	CK
33.00	Y	System Utilities (disk #2)	(35 track, ss)	CK
34.00	Y	Hardware Customizations (disk #4)	(35 track, ss)	CK
35.00	Y	System Utilities (disk #3)	(35 track, ss)	CK
36.00	Y	General Interest (disk #3)	(35 track, ss)	CK
37.00	Y	Communication (disk #2)	(40 track, ds)	CK
38.00	Y	Programming Utilities (disk #4)	(35 track, ss)	CK
39.00	Y	Communication (Morse) (disk #3)	(40 track, ds)	CK
40.00	Y	System Utilities (disk #4)	(35 track, ss)	CK
42.00	Y	Coco Graphics	(35 track, ss)	CK

- NOTES: 1) Above formats describe STANDARD (non-CoCo) versions and are single-density.
- 2) All of the completed volumes are available in TRS-80 Color Computer format (dd, 18 sectors/track, etc.)
- +++ For these volumes to fit in the specified format, the disk is created with a default sector allocation of 1 sector per directory (made by doctoring the "segment allocation size" byte (offset \$20) in the device descriptor of the drive on which the master disk is made).

Orders can be made by mail or through the online services of DELPHI and CompuServe. Payment is required in advance by check, money order, VISA or Master Card.

Last Name _____ First _____ Initial _____

Street Address _____

City _____ State _____ Zip _____

OS-9 Disk Format _____ Form of payment _____

Disk No.	Qty.	Cost	Amount
		\$5.00	
		\$5.00	
		\$5.00	
		\$5.00	
5" Archive Set		\$70.00	

If paying by credit card enter the following:

Card type: VISA _____ MasterCard _____

Account #: _____ Exp. Date _____

Signature _____

SUPER CONTROLLER

Features:

- * Gold contacts on all connectors.
- * Shielded metal box for low RF noise.
- * 4 28-pin sockets for software expandability.
- * Uses 2764 or 27128 EPROMS.
- * EPROMS are software selectable.
- * Internal Mini-Expansion Bus interface for;
 - Parallel Printer or
 - Real Time Clock Parallel Printer or
 - 80 Col Display Clock Parallel Printer or
 - EPROM Programmer or
 - User projects.
- * Complete Radio Shack compatability.
- * New technology, no adjustments needed.
- * Very Accurate 16mhz High Speed Master Clock.
- * Needs 5 volts only, works on all COCOs or COCO IIs.

EXPANSION ADD-ONS:

PPRINT

The first is a Centronics Compatible Parallel Printer Adapter. This adapter will allow you to connect a Centronics compatible printer directly to your controller, leaving the serial port of your computer free for your modem.

RTIME

The second is a Real Time Clock. This is a clock chip that will keep the proper time, date, and year. A small battery keeps the time when the Computer is off, retrieve and set time by using simple Basic POKES. Also available with the Real Time Clock is the Centronics Compatible Parallel Printer adapter. Software to set the clock included.

MPROM

The third is a Mini EPROM Programmer. Yes, a low cost programmer that attaches to the disk controller. A must for the DISTO Super Controller. Program those often used utilities into EPROM and plug them directly into your controller. Will program 2764's or 27128's, a perfect mate for the DISTO Super Controller.

DISPLAY80

The fourth is a real knock-out. This is a three in one card. It's major function is to add an 80* 24 display to your computer. A feature packed package also includes RTIME and PPRINT. All in one neat package that fits inside the controller. Call for more information.

256K/512K SUPER RAM DISK

This is a ROM PAK the size of a typical controller. Inside this, low noise metal case, lives 256K/512K of memory and all the circuitry needed to access it as a RAM DISK. With proper software, this SUPER RAM DISK can be just like another disk drive. You can format it, save a file to it, load a file from it and delete files from it. In fact, anything that can be done on a regular drive, can be done on a RAM DISK, only faster. You see, being high-speed RAM, there is no hardware limitations on speed. It is much faster than even the fastest drive.

Another feature with the SUPER RAM DISK is that it has the same MEB as the Super Controller. That means that all of the add-ons that fit inside the controller will also fit into the RAM DISK. Note, a Multi-Pak is needed when using the RAM DISK with a disk controller.

OS-9 USERS

The OS-9 operating system is rapidly becoming a BEST SELLER. All the DISTO products are supported by OS-9 software. We have drivers for; PPRINT, RTIME, DISPLAY80, RAM DISK, and soon to come, HARD DRIVE. Just think of this, a floppy drive controller, a parallel printer port, the real time, an 80 column display, a 512K RAM Disk and a 20 megabyte Hard Drive, all in two slots of a multi-pak interface. AWESOME!



**SUPER
PRODUCTS**

CREDITS:

The DISTO Super Controller, add-ons and all its documentation are conceived and designed by TONY DISTEFANO. The DISTO Super Controller and add-ons are manufactured and distributed by;

CRC Inc.
10802 Lajeunesse Suite #102
Montreal, Quebec
Canada
H3L 2E8
1-514-383-5293

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CD-I UPDATE

by Brian Lantz

Two electronics industry giants have announced a revolutionary new CD-ROM standard incorporating technology developed by Microware Systems Corporation, Philips N.V. of The Netherlands and Sony Corporation of Japan have unveiled a new type of compact disc capable of holding not only hi-fi sound, but video pictures and computer data as well.

The new product, called Compact Disc Interactive Media (CD-I) heralds a new era in entertainment, education and electronic publishing. Based on the small, sturdy, super-high-fidelity compact disc which is currently sweeping the audio world, CD-I adds natural pictures and interactive capabilities. This will open the way for an important new method of distributing information. Some possibilities are talking encyclopedias, dictionaries, textbooks, electronic magazines and catalogs, as well as exciting new entertainment titles such as music video style presentations, songs with words and computer games with life-like realism. This new media may also offer other possibilities as yet unimagined.

The interactive aspect of the media is especially significant as it allows the user to rapidly locate information and communicate with the highly intelligent CD-I player. The basic player is as easy to hook up and operate as a video cassette recorder, plus it can be optionally expanded to a full-feature personal computer. The new CD-I players are completely compatible with all current CD digital audio discs and the standardized format assures that any disc can be used with any player.

CD-I discs are also distinguished by their enormous storage capacity. Each inexpensive disc is capable of holding as many as 600 Mbytes of digital data, compressed audio and graphics. This translates to over 150,000 printed pages of text or up to 20 hours playing time of speech quality sound.

Philips and Sony originally codeveloped the CD digital audio format first marketed in 1982. Because the new CD-I media relies heavily on advanced software technology, Sony and Philips invited Microware to participate in the CD-I development program. Microware

contributed its special expertise in the creation of the control software for the micro computer-based CD-I player and the information storage format for the discs.

CD-I players are based on the 68000 family microprocessor plus new specialized LSI components developed by Sony and Philips, including audio and video coprocessors. The software is based on the kernel of Microware's OS-9/68000 operating system plus a newly developed CD-I file manager which is tailored to the special characteristics of the read-only media. For example, it allows any file to be opened with only one access even though the file system can have many levels of directories.

The Microware-developed system software package also fully supports the multiple audio and video formats including mixed data types within a single file. Video display capabilities include both

natural (delta YUV) and bit-plane graphics (RGB and color lookup table) in normal (384H by 280V) and high resolution (768H by 560V) modes. Four digital audio quality levels range from ultra high-fidelity standard CD to high grade speech. This allows software designers to select audio and video quality levels which optimize storage requirements and playing time for the material to be presented.

It is expected that many major consumer electronics and personal computer manufacturers will obtain licenses to manufacture CD-I players. The basic player software will be included in the master licenses issued by Philips and Sony. Manufacturers may obtain licenses directly from Microware for the optional extension that upgrades a basic player to a full-featured personal computer configuration.